What is claimed is:

1. A method for changing a scanning period used in a liquid crystal display, comprising:

determining a reference clock period from a first number of original clock periods;

determining said scanning period from a second number of said reference clock periods; and

changing said scanning period by at least one reference clock period.

2. A liquid crystal display controller for changing a scanning period used in a liquid crystal display, comprising:

a reference clock generator for generating a reference clock period from a first number of original clock periods;

a timing generator coupled to said reference clock generator for generating a line pulse synchronized with a scanning period, said scanning period having a second number of said reference clock periods; and

a control register having a third number of said reference clock periods for changing said scanning period, wherein said third number is at least one original clock period different from said second number.

3. A liquid crystal display controller for displaying a desired image on a liquid crystal panel comprising a plurality of scan lines, the liquid crystal display controller comprising:

a control register for storing operating parameters, comprising a first number of reference clock periods in a scanning period and a second number of scan lines in a frame period;

a reference clock generator for generating reference clocks for a timing generator;

said timing generator for generating line pulses synchronized with one scanning period and frame pulses synchronized with one frame period.

4. The liquid crystal display controller of claim 3 wherein said operating parameters further comprise a division ratio and wherein said reference clock from said reference generator is generated from an original clock using said division ratio.

5. The liquid crystal display controller of claim 4 wherein said division ratio is one.

6. The liquid crystal display controller of claim 3 further comprising an external computer coupled with said control register for determining said first number given said second number and a frame frequency.

7. The liquid crystal display controller of claim 6, wherein in conjunction with said determining said first number, a division ratio is also determined.

8. The liquid crystal display controller of claim 7, wherein said determining said division ratio and said first number given said second number and said frame frequency is determined using a look-up table.

9. A liquid crystal display controller for displaying a desired image on a liquid crystal panel , the controller comprising:

a display memory for storing display data, including gradation data;

a control register for storing operating parameters, comprising a first number of reference clock periods in a scanning period and a second number of active lines in a frame period;

a reference clock generator for generating reference clocks for a timing generator;

the timing generator for generating line pulses synchronized with one scanning period, frame pulses synchronized with one frame period, and a gradation signal indicating an effective period;

a scanning line driver for outputting selected and non-selected voltages as scanning signals to the liquid crystal panel, wherein the selected voltage in applied only during the effective period;

a gradation processor for reading gradation display data for a selected line from the display memory to convert it into a pulse width modulated (PWM) signal; and

a data line driver for converting the PWM signal into a data signal for output to the liquid crystal panel.

10. The liquid crystal display controller according to claim 9, wherein said first number of reference clock periods is equal to or larger than (a number . of gradation steps to be displayed minus 1).

11. The liquid crystal display controller according to claim 9, wherein the data signal has the same voltage level at the end of one scanning period as at the beginning of the next scanning period.

12. The liquid crystal display controller according to claim 9, wherein, for the data signal, the timing of voltage level change differs from even frame to odd frame.

13. The liquid crystal display controller according to claim 9, wherein, for the data signal, the timing of voltage level change differs from even data line to odd data line, including when the same gradation is displayed.

14. The liquid crystal display controller according to claim 9, wherein, when the data signal voltage level is for black or white, the voltage level changes at least once per scan line.

15. A cellular phone system, comprising:

a liquid crystal panel for displaying a partial screen display, comprising a first predetermined number of active lines, and a full screen display, comprising a second predetermined number of active lines;

a liquid crystal display controller for controlling at least a display of an active line period on said liquid crystal panel; and

a processor for determining a first active line period for said partial display and a second active line period for said full display, such that a first frame frequency for said partial display is approximately equal to a second frame frequency for said full screen display.

16. The cellular phone system of claim 15 wherein said second frame frequency is equal to an inverse of a product of said second predetermined number of active lines multiplied by said second active line period.

17. The cellular phone system of claim 15 wherein said first frame frequency is equal to an inverse of a product of said first predetermined number of active lines multiplied by said first active line period, said first active line period comprising a number of reference clock periods, wherein a reference clock period comprises a division ratio multiplied by an original clock period.

18. A cellular phone system, comprising:

a liquid crystal panel for displaying a full screen display, comprising a predetermined number of active lines;

a liquid crystal display controller for controlling at least a display of an active line period on said liquid crystal panel, wherein said active line period comprises a number of reference clock periods, wherein each reference clock period comprises a division ratio multiplied by an original clock period; and

a processor for determining a first active line period for a contrast oriented mode having a predetermined frame frequency and a second active line period for a stand-by mode having a lower predetermined frequency.

19. A computer readable medium containing a data structure, comprising a table for determining a scanning period given a frame frequency and a number of active lines, comprising, a first entry for said number of active lines; a second entry for a division ratio number associated with said scanning period; a third entry for a number of reference clock periods for said scanning period, and a forth entry having a calculated frame frequency dependent on said scanning period and substantially equal to said given frame frequency.

20. A method for maintaining a frame frequency at a substantially constant value for a liquid crystal display, having different numbers of active scan lines, said method comprising:

selecting a first number of said different numbers of scan lines, wherein each scan line period for said first number is based on a second number of reference clock periods; and

determining said second number such that the inverse of a product is substantially equal to said frame frequency, wherein said product comprises said first number multiplied by said second number multiplied by a reference clock period.

21. The method of claim 20 wherein said reference clock period is division ratio multiplied by an original clock period.

22. The method of claim 21 wherein said division ratio is 1.

23. The method of claim 21 wherein said division ratio is a power of 2.

24. A method for changing a frame frequency of a liquid crystal display having a predetermined number of scan lines, comprising:

determining a scan line period for said frame frequency, wherein said frame frequency equals an inverse of a product, said product comprising said scan line period times said predetermined number of scan lines;

selecting a new frame frequency; and

determining a new scan line period for said new frame frequency, wherein said new frame frequency equals an inverse of a new product, said new product comprising said new scan line period times said predetermined number of scan lines.

25. A method for providing substantially linear effective voltage characteristics for displaying a predetermined first number of graduation steps on a liquid crystal display, said liquid crystal display using a scanning period based on a second number of reference clocks, comprising:

selecting said second number such that said second number is greater than or equal to said predetermined first number minus one;

setting an effective period from said first reference clock period to said predetermined first number minus one reference clock period; and

displaying graduation step data only in said effective period.

26. The method of claim 25 wherein said reference clock periods from said predetermined first number to said second number is an ineffective period, and an unselected voltage is sent to said liquid crystal display during said ineffective period.

27. The method of claim 25 wherein for a selected graduation step, a PWM signal associated with said selected graduation step is inverted every other scanning period.

28. The method of claim 25 wherein for a selected graduation step, a PWM signal associated with said selected graduation step begins with an ON voltage in one frame and an OFF voltage in a subsequent frame.

29. The method of claim 25 wherein for a selected graduation step, a PWM signal change associated with said selected graduation step is set for one scan line and delayed by at least one reference clock period for a subsequent scan line.

30. The method of claim 25 wherein for a selected graduation step of black, a PWM signal associated with said selected graduation step is changed at least once per scan line.

31. A method for conserving power in a cellular phone display by switching from a full screen display to a partial screen display while maintaining a substantially constant frame frequency, said method comprising:

displaying said full screen display, comprising a first frequency;

determining a scanning period for said partial display comprising a predetermined number of active lines such that said second frequency is substantially equal to said first frequency; and

upon request, switching said full screen display to said partial screen display having said scanning period.

32. The method of claim 31 wherein said determining said scanning period includes calculating a number of reference clock periods in a ratio of said predetermined number of active lines divided by said second frequency.

33. A method for providing a good contrast display mode having a first frame frequency and a power savings display mode having a second frame frequency in a cellular phone system, wherein said first frame frequency is higher than said second frame frequency, said method comprising:

determining a first scan line period for said good contrast display mode based on said first frame frequency and a predetermined number of scan lines;

determining a second scan line period for said power savings display mode based on said second frame frequency and said predetermined number of scan lines; and

displaying a full screen display on a liquid crystal panel, comprising said predetermined number of scan lines, using either said first scan line period or said second scan line period depending upon a selection of said good contrast display mode or said power savings display mode.

34. A computer program product stored on a computer readable medium for changing a scanning period used in a liquid crystal display, said computer program product comprising:

code for determining a reference clock period from a first number of original clock periods;

code for determining said scanning period from a second number of said reference clock periods; and

code for changing said scanning period by at least one reference clock period.

35. A computer program product stored on a computer readable medium for maintaining a frame frequency at a substantially constant value for a liquid crystal display, having different numbers of active scan lines, said computer program product comprising:

code for selecting a first number of said different numbers of scan lines, wherein each scan line period for said first number is based on a second number of reference clock periods; and

code for determining said second number such that the inverse of a product is substantially equal to said frame frequency, wherein said product comprises said first number multiplied by said second number multiplied by a reference clock period.